Applicant(s): Chung-Il HONG et al. Int'l Appl. No.: PCT/KR2003/002700

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IN THE CLAIMS:

Claim 1. (Original) A pharmaceutical composition for oral absorption of a polar active substance, consisting essentially of:

- (a) at least one polar active substance having a bioavailability of less than 30% which is poorly absorptive through lipid membranes because of its high hydrophilicity and charged ion.
- (b) at least one organic alkalizing agent having an amino acid or polyol structure which shows alkalinity in aqueous solution and is ionically bonded to the polar active substance; and
- (c) at least one surfactant having a $C_{6\sim18}$ fatty acid structure which has an HLB (Hydrophilic-Lipophilic Balance) value of 4 to 18.
- Claim 2. (Original) A pharmaceutical composition for oral absorption of a polar active substance, consisting essentially of:
- (a) at least one polar active substance having a bioavailability of less than 30% which is poorly absorptive through lipid membranes because of its high hydrophilicity and charged ion.
- (b) at least one organic alkalizing agent having a fatty acid ester structure which shows alkalinity in aqueous solution and is ionically bonded to the polar active substance.
- Claim 3. (Currently Amended) The pharmaceutical composition according to claim 1 or 2, wherein the polar active substance is at least one selected from cephalordine, ceftiofur, cefixime, cefepime, cefoperazone, cefotaxime, ceftazidime, ceftriaxone, moxalactam, gentamicin, aztreonam, amikacin, isepamycin, netilmicin, tobramycin, vancomycin, daptomycin, teicoplanin, polymixin-B, bacitracin, heparin, parthyroid hormone, growth hormone and insulin.

Applicant(s): Chung-Il HONG et al.

Int'l Appl. No.: PCT/KR2003/002700

Claim 4. (Original) The pharmaceutical composition according to claim 1, wherein the

organic alkalizing agent having an amino acid structure is at least one selected from amino acids,

amino acid derivatives and peptides; and the organic alkalizing agent having a polyol structure is

at least one selected from alkaline saccharides, their oligomers and polymers prepared from 20 or

fewer alkaline saccharides as monomers, and saccharide-like compounds.

Claim 5. (Original) The pharmaceutical composition according to claim 1, wherein the

surfactant is at least one selected from sugar fatty acid esters, saccharin fatty acid esters, glycerol

fatty acid esters, propylene glycol fatty acid esters, polyethylene glycol fatty acid esters, sorbitan

fatty acid esters and polysorbitan fatty acid esters.

Claim 6. (Original) The pharmaceutical composition according to claim 2, wherein the

organic alkalizing agent having a fatty acid ester structure is at least one alkaline substances

prepared from the dehydration between a hydroxyl group (-OH) of a fatty acid ester and a

carboxyl group (-COOH) of an amphoteric compound having both an amine group (-NH₂)

and a carboxyl group (-COOH).

Claim 7. (Currently Amended) The pharmaceutical composition according to claim 1

or 2, wherein the active substance and the organic alkalizing agent are present in a charge ratio of

10:1~1:10.

Claim 8. (Currently Amended) The pharmaceutical composition according to claim 1

or 2, wherein the polar active substance has at least one anionic moiety and has a partition

coefficient (Log P) of 1.5 or lower.

3

Applicant(s): Chung-Il HONG et al.

Int'l Appl. No.: PCT/KR2003/002700

Claim 9. (Currently Amended) The pharmaceutical composition according to claim 1

or 2, wherein the polar active substance and the organic alkalizing agent are combined with each

other to form a hydrophobic conjugate having a size of 10nm to 100µm in water phase.

Claim 10. (Currently Amended) The pharmaceutical composition according to claim 1

or 2, further comprising at least one pharmaceutically acceptable excipient selected from

disintegrating agents, suspending agents, thickening agents, lubricating agents, sweetening

agents, plasticizers and preservatives.

Claim 11. (Currently Amended) The pharmaceutical composition according to claim 1

or 2, wherein the active substance forms a hydrophobic conjugate by intestinal juices after orally

administered in the solid states.

Claim 12. (Currently Amended) The pharmaceutical composition according to claim 1

or 2, wherein the composition is formulated into syrups, dry syrups, powdery granules, tablets or

capsules.

Claim 13. (Original) The pharmaceutical composition according to claim 11, wherein

ne composition is enteric coated when the active substance is unstable to gastric acid.

4